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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,540

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James C. LeBlanc SR.

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EXAMINER

AMORES, KAREN J

ART UNIT

PAPER NUMBER

3616

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,540	Applicant(s) LEBLANC ET AL.	
	Examiner KAREN JANE AMORES	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-16, 19, 21, 24, 26, 35, 36 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-16, 19, 21, 24, 26, 35, 36 and 46-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 4, 11 – 16, 19, 21, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Ima, U.S. 6,729,992 (“Ima”). Ima discloses a power plant and driveline arrangement for a vehicle having at least two wheel units and a body supported on said wheel units comprising (column 1, line 22): an engine (3) supported on said body; a transmission (13) supported on said body disposed on the underside of said engine; a first means (7) for transferring drive from an output shaft (6) of said engine to an input shaft (5) of said transmission; a second means for transferring drive (15) from an output shaft (41) of said transmission to forwardly and rearwardly projecting output shafts; a first wheel carrier (4 or 16) supported on said body forwardly of said second drive transferring means, having an input shaft (17 or 41) drivingly coupled to said forwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (8 or 25) operatively connected to the wheels of a first wheel unit; and a second wheel carrier (the other of 4 or 16) supported on said body rearwardly of said second drive transferring means, having an input shaft (the other 17 or 41) of drivingly coupled to said rearwardly projecting output shaft of said second drive

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transferring means, and a pair of laterally projecting half shafts (the other of 8 or 25) operatively connected to the wheels of a second wheel unit.

3. In reference to claims 2 – 4, 11 – 16, 19 and 21, Ima further discloses a third means (47) for transferring drive operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit a first drive, a second drive (98) or no drive; a pair of longitudinally disposed drive shafts (17 and 63), one operatively interconnecting an output shaft of said second drive transferring means and said input shaft of said first carrier, and the other one operatively interconnecting an output shaft of said second drive transferring means and said input shaft of said second carrier; a hydraulic system (fig. 10) for operating selected systems on said vehicle, having a motor drivingly connected to said first drive transferring means; wherein said second drive transferring means is operable selectively to provide differential drive between said first and second carrier and to lock to evenly provide drive to said first and second carriers; wherein said second drive transferring means is operable to provide differential drive between said first and second carriers; wherein said second drive transferring means is operable to provide inter-axle differential drive; wherein said couplings of said shafts comprise gear couplings; a selectively operable brake (22) operatively connected to said second drive transferring means; wherein each of said carriers is provided with an inter-wheel differential (99); a pair of disc brake assemblies (fig. 6) mounted on each of said carriers, and wherein each of said assemblies is operatively connected to a half shaft (fig. 8).

4. In reference to claim 24, Ima discloses a power plant and driveline arrangement for a vehicle having at least two wheel units and a body supported on said wheel units comprising (column 1, line 22): an engine (3) supported on said body; a transmission (13) supported on said

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body disposed on the underside of said engine; a first means (7) for transferring drive from an output shaft (6) of said engine to an input shaft (5) of said transmission; a second means for transferring drive (15) from an output shaft (41) of said transmission to forwardly and rearwardly projecting output shafts; a first wheel carrier (4) supported on said body forwardly of said second drive transferring means, having an input shaft (41) drivingly coupled to said forwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (8) operatively connected to the wheels of a first wheel unit; and a second wheel carrier (16) supported on said body rearwardly of said second drive transferring means, having an input shaft (17) drivingly coupled to said rearwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (25) operatively connected to the wheels of a second wheel unit; and a third carrier (10) supported on said body rearwardly of said second carrier, having an input shaft (14) drivingly coupled to an output shaft (18) of said second carrier, and pair of laterally projecting half shaft operatively connected to a set of wheels (12) of a wheel unit (10).

5. In reference to claim 26, Ima further discloses a set of longitudinally disposed drive shafts (fig. 1), one operatively interconnecting an output shaft (37) of said second drive transferring means and said input shaft of said first carrier, one operatively interconnecting an output shaft (63) of said second drive transferring means and said input shaft of said second carrier and one operatively interconnecting an output shaft (87) of said second carrier and an input shaft (14) of said third carrier.

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ima in view of Evans et al. U.S. 2003/0186768 ("Evans"). Ima does not directly disclose the details of the engine used. Evans teaches a diesel engine (6). Evans further teaches a turbine engine (244). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Ima such that it comprised the engine in view of the teachings of Evans so as to provide an internal combustion power plant that is powerful enough to drive larger trucks or work vehicles [0045].

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ima in view of Gradu, U.S. 2003/0144109 ("Gradu"). Ima does not directly disclose the transferring means operative to proportion transmitted torque. Gradu teaches a drive transferring means (8) is operative to proportion transmitted torque, 30% to a first carrier and 70% to a second carrier (fig. 5). It would have obvious for a person having ordinary skill in the art at the time the invention was made to modify Ima such that it comprised the drive transferring means operative to proportion transmitted torque in view of the teachings of Gradu so as to selectively apportion torque to front driving wheels and rear driving wheels that can be varied and controlled.

9. Claims 35, 36, and 46 – 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ima in view of Clark, U.S. 3,471,166 ("Clark"). Ima discloses a power plant (3) and driveline arrangement for a vehicle having at least two wheel units and a body supported on said

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wheel units (column 3, line 39), comprising: an engine (3) supported on said body; a transmission (CVT) supported on said body, disposed on the underside of said engine; a first means for transferring drive (7) from an output shaft (6) of said engine to an input shaft (5) of said transmission; a second means for transferring drive from an output shaft (41) of said transmission to forwardly and rearwardly projecting output shafts (63); a first carrier (4) supported on said body forwardly of said second drive transferring means, having an input shaft (41) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts (8) operatively connected to the wheels of a wheel unit (4); a second carrier (16) supported on said body rearwardly of said second drive transferring means, having an input shaft (17) drivingly coupled to said rearwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (25) operatively connected to wheels of a wheel unit (16); a third carrier (10) supported on said body rearwardly of said second carrier, having an input shaft (14) drivingly coupled to an output shaft (18) of said second carrier and a pair of laterally projecting half shafts (11) operatively connected to wheels of a wheel unit (10).

10. Ima does not disclose a fourth carrier supported on said body forwardly of said first carrier, having an input shaft drivingly coupled to an output shaft of said first carrier, and a pair of laterally projecting half shafts operatively connected to wheels of a wheel unit. Clark teaches a fourth carrier (74) supported on said body forwardly of a first carrier (37 or 41), having an input shaft (89) drivingly coupled to an output shaft, and a pair of laterally projecting half shafts (73) operatively connected to wheels of a wheel unit (78). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Ima such

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that it comprised a fourth carrier in view of the teachings of Clark so as to provide free movement of all the wheels without strain and equal distribution of load and driving torque (column 6, line 47).

11. In reference to claim 36, Ima further discloses a third means (16) for transferring drive operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit drive at a first speed, transmit drive at a second speed and transmit no drive in a neutral position (column 3, line 39).

12. In reference to claim 46, Ima discloses a power plant (3) and driveline arrangement for a vehicle having at least two wheel units and a body supported on said wheel units (column 3, line 39), comprising: an engine (3) supported on said body; a transmission (CVT) supported on said body, disposed on the underside of said engine; a first means for transferring drive (7) from an output shaft (6) of said engine to an input shaft (5) of said transmission; a second means for transferring drive from an output shaft (41) of said transmission to forwardly and rearwardly projecting output shafts (63); a first carrier (4) supported on said body forwardly of said second drive transferring means, having an input shaft (41) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts (8) operatively connected to the wheels of a wheel unit (4); a second carrier (16) supported on said body rearwardly of said second drive transferring means, having an input shaft (17) drivingly coupled to said rearwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (25) operatively connected to wheels of a wheel unit (16); a third carrier (10) supported on said body rearwardly of said second carrier,

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having an input shaft (14) drivingly coupled to an output shaft (18) of said second carrier and a pair of laterally projecting half shafts (11) operatively connected to wheels of a wheel unit (10).

13. Ima does not disclose a fourth carrier supported on said body rearwardly of said first carrier, having an input shaft drivingly coupled to an output shaft of said first carrier, and a pair of laterally projecting half shafts operatively connected to wheels of a wheel unit. Clark teaches a fourth carrier (41) supported on said body rearwardly of a first carrier (37 or 74), having an input shaft (55) drivingly coupled to an output shaft, and a pair of laterally projecting half shafts (40) operatively connected to wheels of a wheel unit (41). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Ima such that it comprised a fourth carrier in view of the teachings of Clark so as to provide free movement of all the wheels without strain and equal distribution of load and driving torque (column 6, line 47).

14. In reference to claim 47, Ima discloses a power plant (3) and driveline arrangement for a vehicle having at least two wheel units and a body supported on said wheel units (column 3, line 39), comprising: an engine (3) supported on said body; a transmission (CVT) supported on said body, disposed on the underside of said engine; a first means for transferring drive (7) from an output shaft (6) of said engine to an input shaft (5) of said transmission; a second means for transferring drive from an output shaft (41) of said transmission to forwardly and rearwardly projecting output shafts (63); a first carrier (4) supported on said body forwardly of said second drive transferring means, having an input shaft (41) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts (8) operatively connected to the wheels of a wheel unit (4); a second carrier (16) supported

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on said body rearwardly of said second drive transferring means, having an input shaft (17) drivingly coupled to said rearwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (25) operatively connected to wheels of a wheel unit (16); a third carrier (10) supported on said body rearwardly of said second carrier, having an input shaft (14) drivingly coupled to an output shaft (18) of said second carrier and a pair of laterally projecting half shafts (11) operatively connected to wheels of a wheel unit (10).

15. Ima does not disclose a fourth carrier supported on said body forwardly of said first carrier, having an input shaft drivingly coupled to an output shaft of said first carrier, and a pair of laterally projecting half shafts operatively connected to wheels of a wheel unit. Clark teaches a fourth carrier (74) supported on said body forwardly of a first carrier (37 or 41), having an input shaft (89) drivingly coupled to an output shaft, and a pair of laterally projecting half shafts (73) operatively connected to wheels of a wheel unit (78). Clark further teaches a fifth carrier (39) supported on said body rearwardly of a third carrier (37 or 41) having an input shaft (55) driving coupled to an output shaft (50) of said third carrier and a pair of laterally projecting half shafts (38). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Ima such that it comprised a fourth carrier and fifth carrier in view of the teachings of Clark so as to provide free movement of all the wheels without strain, for equal driving torque, for a greater distribution of load, and greater load capacity.

16. In reference to claim 48, Ima further discloses a third drive means (16) for transferring drive operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit drive at a first speed, transmit drive at a second speed and transmit no drive in a neutral position (column 3, line 39).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAREN JANE AMORES whose telephone number is (571)272-6212. The examiner can normally be reached on Monday through Friday, 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571)-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAREN AMORES
Examiner
Art Unit 3616

/K. A./
Examiner, Art Unit 3616

/Paul N. Dickson/
Supervisory Patent Examiner, Art Unit 3616